APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,205	12/06/2000	Tracy E. Thieret	XER 2 0344 D/A0508	8635

7590 06/29/2006	EXAMINER	
Albert P. Sharpe lll	PHAM, THIERRY L	
Fay, Sharpe, Fagan, Minnich & McKee, LLP		
7th Floor	ART UNIT	PAPER NUMBER
1100 Superior Avenue	2625	
Cleveland, OH 44114		

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 09/731205
Filing Date: December 06, 2000
Appellant(s): Thieret et al

MAILED

JUN 2 9 2006

Technology Center 2600

Mark V. Svat
For Appellant

EXAMINER'S ANSWER

This is in response to the amended appeal brief filed 3/29/2006.

(1)   Real Party of Interest

Party of interest contained in the brief is correct.

(2) Related Appeals and Interferences

The statement of Related Appeals and Interferences contained in the brief is correct.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments

The statement of status of amendments in the brief is correct.

(5) Summary of the Claimed Subject Matter

The summary of the claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection To Be Reviewed on Appeal

Claims 1-12, 16-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sorkin et al (U.S. 5898823), and in view of Irie et al (U.S. 6606164).

Regarding claim 1, Sorkin discloses network document system (*document network system 70, fig. 8*) including:

- a document processing device (*network printer 76, fig. 8*);

- a document processing device controller (*network print server 74, fig. 8*); and

- a network interface controller (*client computer 72, fig. 8*) for communicating job data and control data (*job data and control data such as monitoring status of printer, fig. 8, abstract, col. 2, lines 35-42 and col. 4, lines 5-12*) to and from a network (*network 10, fig. 1*), wherein the interface controller is disposed, intermediate the document processing device controller and the network (*client computer 72 is disposed between network 10 and print server 74, fig. 8*), and in parallel communication with the document processing device and document processing device controller (*and parallel communicating with network printer 76, bypass print server 74, fig. 2 and fig. 8*), for segregating the job data and the control data (*separate print data and control data, fig. 8, e.g., subsequent communication such as printer monitoring/set-up is communicated directly with printer and job data is communicated via a print server 74, abstract and col. 1, lines 40-45 and to access the printer directly for special functions*

including printer's monitoring and/or setup when desired, col. 5, lines 58-59), and wherein the segregated control data is directly communicated between the network interface controller and the document processing device *(subsequent communication including printer status is communicated directly with printer and job data is communicated via a print server bypassing print server 74, col. 4, lines 5-12 and independently from the job data after the printer and client have established its communication)* which document processing controller *(printer server 74 is disposed between client computer 72 and network printer 76, fig. 8)* is disposed between the network interface controller and the document processing device.

Sorkin discloses a print server 74 *(document processing device controller)* as shown in fig. 8, but fails to teach such print server 74 is for translating the job data communicated from the network interface controller to the document processing device independently from the control data, into data format executable by the document processing device.

Irie, in the same field of endeavor for network document system, teaches print server 120 of fig. 1 is for translating the job data communicated from the network interface controller to the document processing device independently from the control data, into data format executable by the document processing device *(print server 120 converts print data to an output device format, i.e., printer's format, col. 8, lines 45-52)*.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Sorkin as per teachings of Irie because of a following reason: (●) to provide a direct access to the printer without having to communicate via a print server (abstract and col. 4, lines 48-52 of Sorkin) to efficiently monitoring the printer and its status.

Therefore, it would have been obvious to combine Sorkin with Irie to obtain the invention as specified in claim 1.

Regarding claims 2-3, Sorkin further discloses the system as claimed in claim 1 wherein the control data includes any of: diagnostic data, operating software, remote operating instructions (printer's configuration, set-up, printer's status and etc, abstract and col. 4, lines 5-12), performance reports, specification of system states and the associated actions, or requests for information from system elements.

Regarding claims 4-5, Sorkin further discloses the system as claimed in claim 1 wherein the interface controller identifies object-oriented rendering data within the job data (if the job requires spooling, then the print job is transmitted to the print server 74, and if the not does not require any printing and/or performing any rendering such as color conversion, then the requests is directly communicated with the network printer 76), and parallelly communicates the object-oriented rendering data to the document processing device controller and the document processing device.

Regarding claim 6, Sorkin further discloses the system as claimed in claim 1 wherein the interface controller comprises either a physical (i.e. client computer 72, fig. 8) or logical entity in the system.

Regarding claim 7, Sorkin discloses a business to business communication system *(system, fig. 8)* for controlling and monitoring a document processing device through network communications, comprising:

- a document processing device *(network printer 76, fig. 8)* responsive to remote communication signals and capable of issuing device operating status signals *(abstract and col. 4, lines 5-12),* the communication signals and status signals being received and sent, respectively, via a network system;
- a network interface controller *(client computer 72, fig. 8)* interposed between the document processing device and the network system for distinguishing the remote communication signals as job data or control data;
- a document processing device controller *(network print server 74, fig. 8),* disposed intermediate the network interface controller and the document processing device, and;
- wherein the control data *(i.e. subsequent communication including printer status is communicated directly with printer and job data is communicated via a print server 74, fig. 8)* is communicated to the document processing device directly from the network interface controller and independently from the job data *(i.e. subsequent communication including printer's monitoring is communicated directly with printer and job data is communicated via a*

print server, fig. 8 independently from the job data after the printer and client have established
its communication)

Sorkin discloses a print server 74 *(document processing device controller)* as shown in fig. 8, but fails to teach such print server 74 is for translating the job data communicated from the network interface controller to the document processing device independently from the control data, into data format executable by the document processing device.

Irie, in the same field of endeavor for network document system, teaches print server 120 of fig. 1 is for translating the job data communicated from the network interface controller to the document processing device independently from the control data, into data format executable by the document processing device *(print server 120 converts print data to an output device format, i.e., printer's format, col. 8, lines 45-52).*

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Sorkin as per teachings of Irie because of a following reason: (●) to provide a direct access to the printer without having to communicate via a print server (abstract and col. 4, lines 48-52) to efficiently monitoring the printer and its status.

Therefore, it would have been obvious to combine Sorkin with Irie to obtain the invention as specified in claim 7.

Regarding claims 8-12, Sorkin further discloses the system as defined in claim 7 wherein the control data includes the device operating status signals (i.e. job event status, fig. 8, abstract and col. 4, lines 5-12) communicated as a regular operational report or in response to an inquiry received by the network interface controller from the network system and many other operating statuses.

Regarding claims 16-18, Sorkins further discloses wherein the control data comprises object-oriented rendering data including text, pictures, graphics for enhancing, and PDL (if the job requires spooling, then the print job is transmitted to the print server 74, and if the not does not require any printing and/or performing any rendering such as color conversion, then the requests is directly communicated with the network printer 76 and it is also known in the art print server 74 also processes rendering intents, please also see Irie for more details regarding

print server 120 for converting print data to PDL and performs other type of rendering intents, i.e. color conversion, halftoning and etc).

Regarding claims 19, Sorkin discloses a network document processing system (document system, fig. 8) wherein job data for processing a document is communicated from a job source to a printer through a network, comprising:

• a digital front end *(DFE, network print server 74, fig. 8)* disposed in communication with the printer for receiving; and

• an intelligent interface network controller *(iNIC, client computer 72, fig. 8)* disposed intermediate the network and the DFE, and in parallel communication with the printer and the DFE, for selectively communicating the job data and control data independently from one another to or from the printer *(i.e. subsequent communication including printer's monitoring is communicated directly with printer and job data is communicated via a print server 74 independently from one another after the client and printer has established its communication, col. 4, lines 5-12),* which control data may bypasses flow path communication through the DFE during printer communication with the network.

Sorkin discloses a print server 74 (document processing device controller) as shown in fig. 8, but fails to teach such print server 74 is for translating the job data imaging signals recognizable by the printer.

Irie, in the same field of endeavor for network document system, teaches print server 120 of fig. 1 is for translating the job data imaging signals recognizable by the printer (print server 120 converts print data to an output device format, i.e., printer's format, col. 8, lines 45-52).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Sorkin as per teachings of Irie because of a following reason: (•) to provide a direct access to the printer without having to communicate via a print server (abstract and col. 4, lines 48-52) to efficiently monitoring the printer and its status.

Therefore, it would have been obvious to combine Sorkin with Irie to obtain the invention as specified in claim 19.

Regarding claim 20, Sorkin further discloses the document processing system as claimed in claim 19 wherein the job data and the control data enable printer value-added services and management functions (management and monitoring, col. 4, lines 5-12).

Regarding claim 21, Sorkin further teaches the document processing system as defined in claim 14 wherein the printer value-added services and management functions include at least one of: remote diagnostics, remote device management, image processing, process control, software update, consumable supplies status and ordering, and variable data job integrity (i.e. job event status, fig. 8, abstract and col. 4, lines 5-12).

Regarding claim 22, Sorkin discloses a method of operating a network-based assembly for document processing *(document system, fig. 8)* wherein the assembly includes an interface controller (client computer, fig. 8) connected between a document processing device *(network printer, fig. 8)* and a network system *(network 10, fig. 8)*, and a digital front end (DFE) connected (print server, fig. 8) between the interface controller and for the document processing device, the method comprising steps of:

- communicating job data and control data to the assembly through the network system *(job data and control data such as monitoring status of printer, fig. 8, abstract, col. 2, lines 35-42 and col. 4, lines 5-12)*;

- determining the appropriate flow of the job data and the control data to the assembly through the interface controller *(job data and control data such as monitoring status of printer, fig. 8, abstract, col. 2, lines 35-42 and col. 4, lines 5-12)*;

- segregating, at the interface controller, the control data from the job data *(separate print data and control data, i.e., subsequent communication including printer's monitoring and print job data, fig. 8, job event is communicated directly with printer and job data is communicated via a print server 74)*;

- communicating the control data directly *(i.e. subsequent communication including printer's monitoring is communicated directly with printer and job data is communicated via a print server, col. 4, lines 5-12)* to the document processing device and the job data at least to the DFE;

• directing the document processing signals to the document processing device *(i.e. job event data is directly communicated between the client computer 72 and network printer 76 bypassing print server 74, col. 4, lines 5-12)*; and,

• executing the document processing signals at the document processing device *(print document data via network printer, fig. 8)*, whereby the control data is communicated to and from the document processing device exclusive of a flow path through the DFE.

Sorkin discloses a print server 74 (document processing device controller) as shown in fig. 8, but fails to teach such print server 74 is for converting the job data at the DFE to document processing signals recognizable by the document processing device.

Irie, in the same field of endeavor for network document system, teaches print server 120 of fig. 1 is for is for converting the job data at the DFE to document processing signals recognizable by the document processing device (print server 120 converts print data to an output device format, i.e., printer's format, col. 8, lines 45-52).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Sorkin as per teachings of Irie because of a following reason: (•) to provide a direct access to the printer without having to communicate via a print server (abstract and col. 4, lines 48-52) to efficiently monitoring the printer and its status.

Therefore, it would have been obvious to combine Sorkin with Irie to obtain the invention as specified in claim 22.

Regarding claim 23, Sorkin further discloses the method as claimed in claim 22 wherein the executing comprises processing the document in a xerographic environment (network printing environment, fig. 8).

Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sorkin and Irie as described in claims 1 & 8 above, and further in view of Suzuki et al (U.S. 5270775).

Regarding claims 13-15, the combinations of Sorkin and Irie do not disclose wherein the control data (command) comprising billing information, accounting information, and service information.

Suzuki, in the same field of endeavor for printings, teaches the control data (command) comprising billing information, accounting information, and service information (col. 1, lines 50-67 and col. 2, lines 1-45).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Sorkin and Irie as per teachings of Suzuki because of a following reason: (1) to allow operators/businesses to obtain usage data of plurality of printers connected via a network for proper billing, accounting, and service information.

Therefore, it would have been obvious to combine Aikawa with Suzuki to obtain the invention as specified in claims 13-15.

(7) Response to Argument

• ISSUE 1

(1) Regarding claim 1, the applicants argued the client computer of Sorkin is not in direct communication with the printer.

In response, the examiner disagrees with applicants' arguments. Sorkin teaches a direct communication between a client computer 72 and printer 76 *after* the communication has been established between these two devices (col. 2, lines 35-40). Fig. 8 of Sorkin clearly shows a direct communication (i.e. subsequent communication) between client computer 72 and printer 76. In other words, client computer 72 can directly communicates with the printer 76 after it receives an IP address of printer 76. NOTES: The examiner herein interprets the system as taught by Sorkin *after it has established the communication link* between the two devices, client computer 72 and network printer 76. Fig. 1 of present invention shows a network interface 20 is directly communicates with marking system (printer 12), but does not show how these two devices initiate its communication link. Therefore, the steps that show how these two devices initiate its communication are lacking. On the other hand, Sorkin clearly teaches how the client computer 72 and network printer 76 establish its communication link, that is, via a network server/spooler 74. After client computer 72 obtains the printer's IP address 76, then these two

devices are in a mode for direct communication as shown in fig. 8. Therefore, arguments as presented by the applicants are not persuasive.

(2) Regarding claim 1, the applicants argued the control data from the client computer (client computer 72, fig. 8) is not communicated to the document-processing device (printer 76, fig. 8).

In response, the examiner disagrees with applicants' assertions/arguments. Fig. 8 of Sorkin clearly shows the control data (subsequent communication such as set up or monitoring the printer, col. 4, lines 5-10, fig. 8) is directly communicated to the printer 76 after it has established the communication link bypassing the network server 74. Fig. 1 of present invention shows a network interface 20 is directly communicates with marking system (printer 12), but does not show how these two devices initiate its communication link. Therefore, the steps that show how these two devices initiate its communication are lacking. On the other hand, Sorkin clearly teaches how the client computer 72 and network printer 76 establish its communication link, that is, via a network server/spooler 74. After client computer 72 obtains the printer's IP address 76, then these two devices are in a mode for direct communication (i.e. direct communication signals such as printer's monitoring) as shown in fig. 8. Therefore, arguments as presented by the applicants are not persuasive.

(3) Regarding claim 1, the applicants argued the client computer of Sorkin is *not in parallel* communication with the document-processing device (printer 76) and the document processing device controller (network server 74).

In response, the examiner disagrees with applicants' arguments/assertions. Fig. 8 clearly shows client computer 72 *is parallel communicates* with network server 74 and network printer 76. Client computer 72 is in parallel communication (fig. 8) with network printer 76 and network server 74 *after* successfully obtained printer's IP address. NOTES: The examiner herein interprets the system as taught by Sorkin is in parallel communication *after it has established the communication link* between the two devices, client computer 72 and network printer 76. See discussions above (a) for more details.

(4) Regarding claim 1, the applicants argued print server of Irie does not translate the print job into data format executable by the document processing device (printer's format).

In response, the examiner disagrees with applicants' arguments/assertions. Sorkin teaches a network server 74 (also known as spooler server or print server), but fails to explicitly teach

and/or suggest its capability of converting print data into a format that is readable by the printer (i.e. PDL, PCL, PS, bit map, and etc). The examiner relies upon Irie to remedy such deficiency. Print server 120 (fig. 3) as taught by Irie also includes a spool unit 121 for storing inputted print data transmitted from client computer 111 (fig. 1). Print server 120 includes a data conversion part 129 (fig. 3) for converting inputted print data into a format that is readable by the printer (fig. 3, col. 6, lines 52-58 and col. 8, lines 46-50). In addition, it is well known in the art that a print server is having a conversion capability of converting print data into a printable format that is readable by the printer. See US 6614546 (col. 12, lines 45-45) for an example of print server of converting print data into a printer readable format.

(5) Regarding claim 1, the applicants argued there is no motivation or suggestion has been show to modify or combine server/spooler of Sorkin with printer server of Irie.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, (●) to provide a direct access to the printer without having to communicate via a print server (abstract and col. 4, lines 48-52 of Sorkin) to efficiently monitoring the printer and its status by transmitting the control data directly to the printer. Sorkin teaches a network server 74 (also known as spooler server or print server), but fails to explicitly teach and/or suggest its capability of converting print data into a format that is readable by the printer (i.e. PDL, PCL, PS, bit map, and etc). The examiner relies upon Irie to remedy such deficiency. Print server 120 (fig. 3) as taught by Irie also includes a spool unit 121 for storing inputted print data transmitted from client computer 111 (fig. 1). Print server 120 includes a data conversion part 129 (fig. 3) for converting inputted print data into a format that is readable by the printer (fig. 3, col. 6, lines 52-58 and col. 8, lines 46-50). By converting print data at the print server helps reducing the computing tasks at the client machine, therefore, improving processing speed. Also, network printer server 120 of Irie not only converting print data transmitted from a single client machine,

but also from multiple client machines as shown in fig. 1. Therefore, replacing Sorkin's printer server 74 with Irie's printer server 120 clearly is an advantage.

(6) Regarding claim 1, the applicants argued Sorkin teaches away from the invention.

In response, the examiner disagrees with applicants' arguments/assertions. Sorkin does not teach away from the client's invention. Both Sorkin and client's invention involve bypassing a central device (i.e. spooler) to have control data sends directly from client computer to printer. See fig. 1 and fig. 8 of client's disclosure and Sorkin respectively. NOTES: The examiner herein interprets the system as taught by Sorkin *after it has established the communication link* between the two devices, client computer 72 and network printer 76. Fig. 1 of present invention shows a network interface 20 is directly communicates with marking system (printer 12), but does not show how these two devices initiate its communication link. Therefore, the steps that show how these two devices initiate its communication are lacking. On the other hand, Sorkin clearly teaches how the client computer 72 and network printer 76 establish its communication link, that is, via a network server/spooler 74. After client computer 72 obtains the printer's IP address 76, then these two devices are in a mode for direct communication as shown in fig. 8. Therefore, arguments as presented by the applicants are not persuasive.

(7) Regarding claim 1, the applicants argued Irie teaches away from the client's invention.

In response, the examiner disagrees with applicants' assertions/arguments. Sorkin teaches a network server 74 (also known as spooler server or print server), but fails to explicitly teach and/or suggest its capability of converting print data into a format that is readable by the printer (i.e. PDL, PCL, PS, bit map, and etc). The examiner relies upon Irie to remedy such deficiency. Print server 120 (fig. 3) as taught by Irie also includes a spool unit 121 for storing inputted print data transmitted from client computer 111 (fig. 1). Print server 120 includes a data conversion part 129 (fig. 3) for converting inputted print data into a format that is readable by the printer (fig. 3, col. 6, lines 52-58 and col. 8, lines 46-50). Therefore, Irie's disclosure does not teach away from either client's invention or Sorkin's disclosure, because it alls involves printing. And each (client's invention, Sorkin's disclosure, and Irie's disclosure) involves transmitting print data from the client machine to the print server before forwarding to the printer.

(8) Regarding claim 1, the applicants argued the combined references were viewed with an impermissible hindsight.

Applicant's arguments have been fully considered but they are not persuasive. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

• ISSUE 2

(1) Regarding claim 7, the applicants argued the cited prior art (Sorkin) does not teach the control data is communicate to the printer directly straight from the client computer.

In response, the examiner disagrees with applicants' arguments. Sorkin teaches a direct communication between a client computer 72 and printer 76 *after* the communication has been established between these two devices (col. 2, lines 35-40). Fig. 8 of Sorkin clearly shows a direct communication (i.e. subsequent communication) between client computer 72 and printer 76. In other words, client computer 72 can directly communicates with the printer 76 after it receives an IP address of printer 76. NOTES: The examiner herein interprets the system as taught by Sorkin *after it has established the communication link* between the two devices, client computer 72 and network printer 76. Fig. 1 of present invention shows a network interface 20 is directly communicates with marking system (printer 12), but does not show how these two devices initiate its communication link. Therefore, the steps that show how these two devices initiate its communication are lacking. On the other hand, Sorkin clearly teaches how the client computer 72 and network printer 76 establish its communication link, that is, via a network server/spooler 74. After client computer 72 obtains the printer's IP address 76, then these two devices are in a mode for direct communication as shown in fig. 8. Therefore, arguments as presented by the applicants are not persuasive.

(2) Regarding claim 7, the applicants argued the client computer as taught by Sorkin is not in communication with the document processing device (printer).

In response, the examiner disagrees with applicants' assertions/arguments. Fig. 8 of Sorkin clearly shows the control data (subsequent communication such as set up or monitoring the printer, col. 4, lines 5-10, fig. 8) is directly communicated to the printer 76 after it has established the communication link bypassing the network server 74. Fig. 1 of present invention shows a network interface 20 is directly communicates with marking system (printer 12), but does not show how these two devices initiate its communication link. Therefore, the steps that show how these two devices initiate its communication are lacking. On the other hand, Sorkin clearly teaches how the client computer 72 and network printer 76 establish its communication link, that is, via a network server/spooler 74. After client computer 72 obtains the printer's IP address 76, then these two devices are in a mode for direct communication (i.e. direct communication signals such as printer's monitoring) as shown in fig. 8. Therefore, arguments as presented by the applicants are not persuasive.

(3) Regarding claim 7, the applicants argued the client computer as taught by Sorkin does not communicate the control data independently form the job data.

In response, the examiner disagrees with applicants' assertions/arguments. Fig. 8 of Sorkin clearly shows the control data (subsequent communication such as set up or monitoring the printer, col. 4, lines 5-10, fig. 8) is directly communicated to the printer 76 after it has established the communication link bypassing the network server 74. Fig. 1 of present invention shows a network interface 20 is directly communicates with marking system (printer 12), but does not show how these two devices initiate its communication link. Therefore, the steps that show how these two devices initiate its communication are lacking. On the other hand, Sorkin clearly teaches how the client computer 72 and network printer 76 establish its communication link, that is, via a network server/spooler 74. After client computer 72 obtains the printer's IP address 76, then these two devices are in a mode for direct communication (i.e. direct communication signals such as printer's monitoring) as shown in fig. 8. In other words, the control data (i.e. subsequent communication, fig. 8) is independently communicated to the printer directly, and the print job data is communicated to the network server 74 independently from the control data. Therefore, arguments as presented by the applicants are not persuasive.

(4) Regarding claim 7, the applicants argued print server of Irie does not translate the job data into data format executable by the document processing device.

In response, the examiner disagrees with applicants' arguments/assertions. Sorkin teaches a network server 74 (also known as spooler server or print server), but fails to explicitly teach and/or suggest its capability of converting print data into a format that is readable by the printer (i.e. PDL, PCL, PS, bit map, and etc). The examiner relies upon Irie to remedy such deficiency. Print server 120 (fig. 3) as taught by Irie also includes a spool unit 121 for storing inputted print data transmitted from client computer 111 (fig. 1). Print server 120 includes a data conversion part 129 (fig. 3) for converting inputted print data into a format that is readable by the printer (fig. 3, col. 6, lines 52-58 and col. 8, lines 46-50). In addition, it is well known in the art that a print server is having a conversion capability of converting print data into a printable format that is readable by the printer. See US 6614546 (col. 12, lines 45-45) for an example of print server of converting print data into a printer readable format.

(5) Regarding claim 7, the applicants argued there is no motivation or suggestion has been show to modify or combine server/spooler of Sorkin with printer server of Irie.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, (●) to provide a direct access to the printer without having to communicate via a print server (abstract and col. 4, lines 48-52 of Sorkin) to efficiently monitoring the printer and its status by transmitting the control data directly to the printer. Sorkin teaches a network server 74 (also known as spooler server or print server), but fails to explicitly teach and/or suggest its capability of converting print data into a format that is readable by the printer (i.e. PDL, PCL, PS, bit map, and etc). The examiner relies upon Irie to remedy such deficiency. Print server 120 (fig. 3) as taught by Irie also includes a spool unit 121 for storing inputted print data transmitted from client computer 111 (fig. 1). Print server 120 includes a data conversion part 129 (fig. 3) for converting inputted print data into a format that is readable by the printer (fig. 3, col. 6, lines 52-58 and col. 8, lines 46-50). By converting print data at the print server helps reducing the computing tasks at the client machine, therefore, improving processing speed. Also, network

printer server 120 of Irie not only converting print data transmitted from a single client machine, but also from multiple client machines as shown in fig. 1. Therefore, replacing Sorkin's printer server 74 with Irie's printer server 120 clearly is an advantage.

(6) Regarding claim 7, the applicants argued Sorkin teaches away from the invention.

In response, the examiner disagrees with applicants' arguments/assertions. Sorkin does not teach away from the client's invention. Both Sorkin and client's invention involve bypassing a central device (i.e. spooler) to have control data sends directly from client computer to printer. See fig. 1 and fig. 8 of client's disclosure and Sorkin respectively. NOTES: The examiner herein interprets the system as taught by Sorkin *after it has established the communication link* between the two devices, client computer 72 and network printer 76. Fig. 1 of present invention shows a network interface 20 is directly communicates with marking system (printer 12), but does not show how these two devices initiate its communication link. Therefore, the steps that show how these two devices initiate its communication are lacking. On the other hand, Sorkin clearly teaches how the client computer 72 and network printer 76 establish its communication link, that is, via a network server/spooler 74. After client computer 72 obtains the printer's IP address 76, then these two devices are in a mode for direct communication as shown in fig. 8. Therefore, arguments as presented by the applicants are not persuasive.

(7) Regarding claim 7, the applicants argued Irie teaches away from the client's invention.

In response, the examiner disagrees with applicants' assertions/arguments. Sorkin teaches a network server 74 (also known as spooler server or print server), but fails to explicitly teach and/or suggest its capability of converting print data into a format that is readable by the printer (i.e. PDL, PCL, PS, bit map, and etc). The examiner relies upon Irie to remedy such deficiency. Print server 120 (fig. 3) as taught by Irie also includes a spool unit 121 for storing inputted print data transmitted from client computer 111 (fig. 1). Print server 120 includes a data conversion part 129 (fig. 3) for converting inputted print data into a format that is readable by the printer (fig. 3, col. 6, lines 52-58 and col. 8, lines 46-50). Therefore, Irie's disclosure does not teach away from either client's invention or Sorkin's disclosure, because it alls involves printing. And each (client's invention, Sorkin's disclosure, and Irie's disclosure) involves transmitting print data from the client machine to the print server before forwarding to the printer.

(8) Regarding claim 7, the applicants argued the combined references were viewed with an impermissible hindsight.

Applicant's arguments have been fully considered but they are not persuasive. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

• ISSUE 3

(1) Regarding claim 17, the applicants argued Sorkin does not describe that the client computer communicates to the printer the object rendering data which distinguishes text, pictures and business graphics to enhance the document processing device operation.

In response, Sorkin teaches a method for directly transmitting control data (i.e. certain special function such as determining the configuration, the set-up or the monitoring of the printer, col. 4, lines 5-10) from client computer 72 to network printer 76 upon establishment communication between these two devices. Setting up or monitoring control data that are sent to the printer are just an example; other control data such as object-rendering data distinguishes text, pictures and business graphic can also be implemented, and it is widely known and available in the art. An example of object-oriented rendering data for distinguishes text, pictures, and business graphic is shown in fig. 1 of Zandee (US 5872895).

• ISSUE 4

(1) Regarding claim 18, the applicants argued Sorkin does not teach and/or suggest the control data comprise object-oriented rendering data which includes page description language data about a document to be made.

In response, Sorkin teaches a method for directly transmitting control data (i.e. certain special function such as determining the configuration, the set-up or the monitoring of the printer, col. 4,

lines 5-10) from client computer 72 to network printer 76 upon establishment communication between these two devices. Setting up or monitoring control data that are sent to the printer are just an example; other control data such as object-rendering data which includes page description language (PDL) data about a document to be made. Control data is nothing more than a command that is sent from a client computer to a printer machine, and such control data can includes various commands such as setting up printer, monitoring printer, obtaining characteristics of printer, and document types (PDL, PCL, PS, and etc). US 6433882 teaches an example of control data which includes a page description language data about a document to be made (col. 2, lines 13-25).

• ISSUE 5

(1) Regarding claim 19, the applicants argued the client computer of Sorkin is not in communication with the printer directly.

In response, the examiner disagrees with applicants' arguments. Sorkin teaches a direct communication between a client computer 72 and printer 76 *after* the communication has been established between these two devices (col. 2, lines 35-40). Fig. 8 of Sorkin clearly shows a direct communication (i.e. subsequent communication) between client computer 72 and printer 76. In other words, client computer 72 can directly communicates with the printer 76 after it receives an IP address of printer 76. NOTES: The examiner herein interprets the system as taught by Sorkin *after it has established the communication link* between the two devices, client computer 72 and network printer 76. Fig. 1 of present invention shows a network interface 20 is directly communicates with marking system (printer 12), but does not show how these two devices initiate its communication link. Therefore, the steps that show how these two devices initiate its communication are lacking. On the other hand, Sorkin clearly teaches how the client computer 72 and network printer 76 establish its communication link, that is, via a network server/spooler 74. After client computer 72 obtains the printer's IP address 76, then these two devices are in a mode for direct communication as shown in fig. 8. Therefore, arguments as presented by the applicants are not persuasive.

(2) Regarding claim 19, the applicants argued the client computer (72) of Sorkin is not in parallel communication with the printer (76) and the DFE (74) of fig. 8.

In response, the examiner disagrees with applicants' arguments/assertions. Fig. 8 clearly shows client computer 72 *is parallel communicates* with network server 74 and network printer 76. Client computer 72 is in parallel communication (fig. 8) with network printer 76 and network server 74 *after* successfully obtained printer's IP address. NOTES: The examiner herein interprets the system as taught by Sorkin is in parallel communication *after it has established the communication link* between the two devices, client computer 72 and network printer 76. See discussions above (a) for more details.

(3) Regarding claim 19, the applicants argued the control data from the client computer is not communicated to the printer and does not by-pass the DFE (network server).

In response, the examiner disagrees with applicants' assertions/arguments. Fig. 8 of Sorkin clearly shows the control data (subsequent communication such as set up or monitoring the printer, col. 4, lines 5-10, fig. 8) is directly communicated to the printer 76 after it has established the communication link bypassing the network server 74. Fig. 1 of present invention shows a network interface 20 is directly communicates with marking system (printer 12), but does not show how these two devices initiate its communication link. Therefore, the steps that show how these two devices initiate its communication are lacking. On the other hand, Sorkin clearly teaches how the client computer 72 and network printer 76 establish its communication link, that is, via a network server/spooler 74. After client computer 72 obtains the printer's IP address 76, then these two devices are in a mode for direct communication (i.e. direct communication signals such as printer's monitoring) by-passing network server 74 as shown in fig. 8. Therefore, arguments as presented by the applicants are not persuasive.

(4) Regarding claim 19, the applicants argued printer server of Irie does not translate the job data into image signals recognizable by the printer.

In response, the examiner disagrees with applicants' arguments/assertions. Sorkin teaches a network server 74 (also known as spooler server or print server), but fails to explicitly teach and/or suggest its capability of converting print data into a format that is readable by the printer (i.e. PDL, PCL, PS, bit map, and etc). The examiner relies upon Irie to remedy such deficiency. Print server 120 (fig. 3) as taught by Irie also includes a spool unit 121 for storing inputted print

data transmitted from client computer 111 (fig. 1). Print server 120 includes a data conversion part 129 (fig. 3) for converting inputted print data into a format that is readable by the printer (fig. 3, col. 6, lines 52-58 and col. 8, lines 46-50). In addition, it is well known in the art that a print server is having a conversion capability of converting print data into a printable format that is readable by the printer. See US 6614546 (col. 12, lines 45-45) for an example of print server of converting print data into a printer readable format.

(5) Regarding claim 19, the applicants argued there is no motivation or suggestion has been show to modify or combine server/spooler of Sorkin with printer server of Irie.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.   See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, (●) to provide a direct access to the printer without having to communicate via a print server (abstract and col. 4, lines 48-52 of Sorkin) to efficiently monitoring the printer and its status by transmitting the control data directly to the printer. Sorkin teaches a network server 74 (also known as spooler server or print server), but fails to explicitly teach and/or suggest its capability of converting print data into a format that is readable by the printer (i.e. PDL, PCL, PS, bit map, and etc). The examiner relies upon Irie to remedy such deficiency. Print server 120 (fig. 3) as taught by Irie also includes a spool unit 121 for storing inputted print data transmitted from client computer 111 (fig. 1). Print server 120 includes a data conversion part 129 (fig. 3) for converting inputted print data into a format that is readable by the printer (fig. 3, col. 6, lines 52-58 and col. 8, lines 46-50). By converting print data at the print server helps reducing the computing tasks at the client machine, therefore, improving processing speed. Also, network printer server 120 of Irie not only converting print data transmitted from a single client machine, but also from multiple client machines as shown in fig. 1. Therefore, replacing Sorkin's printer server 74 with Irie's printer server 120 clearly is an advantage.

(6) Regarding claim 19, the applicants argued Sorkin teaches away from the invention.

In response, the examiner disagrees with applicants' arguments/assertions. Sorkin does not teach away from the client's invention. Both Sorkin and client's invention involve bypassing a central device (i.e. spooler) to have control data sends directly from client computer to printer. See fig. 1 and fig. 8 of client's disclosure and Sorkin respectively. NOTES: The examiner herein interprets the system as taught by Sorkin *after it has established the communication link* between the two devices, client computer 72 and network printer 76. Fig. 1 of present invention shows a network interface 20 is directly communicates with marking system (printer 12), but does not show how these two devices initiate its communication link. Therefore, the steps that show how these two devices initiate its communication are lacking. On the other hand, Sorkin clearly teaches how the client computer 72 and network printer 76 establish its communication link, that is, via a network server/spooler 74. After client computer 72 obtains the printer's IP address 76, then these two devices are in a mode for direct communication as shown in fig. 8. Therefore, arguments as presented by the applicants are not persuasive.

(7) Regarding claim 19, the applicants argued Irie teaches away from the client's invention.

In response, the examiner disagrees with applicants' assertions/arguments. Sorkin teaches a network server 74 (also known as spooler server or print server), but fails to explicitly teach and/or suggest its capability of converting print data into a format that is readable by the printer (i.e. PDL, PCL, PS, bit map, and etc). The examiner relies upon Irie to remedy such deficiency. Print server 120 (fig. 3) as taught by Irie also includes a spool unit 121 for storing inputted print data transmitted from client computer 111 (fig. 1). Print server 120 includes a data conversion part 129 (fig. 3) for converting inputted print data into a format that is readable by the printer (fig. 3, col. 6, lines 52-58 and col. 8, lines 46-50). Therefore, Irie's disclosure does not teach away from either client's invention or Sorkin's disclosure, because it alls involves printing. And each (client's invention, Sorkin's disclosure, and Irie's disclosure) involves transmitting print data from the client machine to the print server before forwarding to the printer.

(8) Regarding claim 19, the applicants argued the combined references were viewed with an impermissible hindsight.

Applicant's arguments have been fully considered but they are not persuasive. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense

necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

• ISSUE 6

(1) Regarding claim 22, the applicants argued the client computer of Sorkin is not in communication with the printer directly.

In response, the examiner disagrees with applicants' arguments. Sorkin teaches a direct communication between a client computer 72 and printer 76 *after* the communication has been established between these two devices (col. 2, lines 35-40). Fig. 8 of Sorkin clearly shows a direct communication (i.e. subsequent communication) between client computer 72 and printer 76. In other words, client computer 72 can directly communicates with the printer 76 after it receives an IP address of printer 76. NOTES: The examiner herein interprets the system as taught by Sorkin *after it has established the communication link* between the two devices, client computer 72 and network printer 76. Fig. 1 of present invention shows a network interface 20 is directly communicates with marking system (printer 12), but does not show how these two devices initiate its communication link. Therefore, the steps that show how these two devices initiate its communication are lacking. On the other hand, Sorkin clearly teaches how the client computer 72 and network printer 76 establish its communication link, that is, via a network server/spooler 74. After client computer 72 obtains the printer's IP address 76, then these two devices are in a mode for direct communication as shown in fig. 8. Therefore, arguments as presented by the applicants are not persuasive.

(2) Regarding claim 22, the applicants argued the client computer (72) of Sorkin is not in parallel communication with the printer (76) and the DFE (74) of fig. 8.

In response, the examiner disagrees with applicants' arguments/assertions. Fig. 8 clearly shows client computer 72 *is parallel communicates* with network server 74 and network printer 76. Client computer 72 is in parallel communication (fig. 8) with network printer 76 and network server 74 *after* successfully obtained printer's IP address. NOTES: The examiner herein

interprets the system as taught by Sorkin is in parallel communication *after it has established the communication link* between the two devices, client computer 72 and network printer 76. See discussions above (a) for more details.

(3) Regarding claim 22, the applicants argued the control data from the client computer is not communicated to the printer and does not by-pass the DFE (network server).

In response, the examiner disagrees with applicants' assertions/arguments. Fig. 8 of Sorkin clearly shows the control data (subsequent communication such as set up or monitoring the printer, col. 4, lines 5-10, fig. 8) is directly communicated to the printer 76 after it has established the communication link bypassing the network server 74. Fig. 1 of present invention shows a network interface 20 is directly communicates with marking system (printer 12), but does not show how these two devices initiate its communication link. Therefore, the steps that show how these two devices initiate its communication are lacking. On the other hand, Sorkin clearly teaches how the client computer 72 and network printer 76 establish its communication link, that is, via a network server/spooler 74. After client computer 72 obtains the printer's IP address 76, then these two devices are in a mode for direct communication (i.e. direct communication signals such as printer's monitoring) by-passing network server 74 as shown in fig. 8. Therefore, arguments as presented by the applicants are not persuasive.

(4) Regarding claim 22, the applicants argued printer server of Irie does not translate the job data into image signals recognizable by the printer.

In response, the examiner disagrees with applicants' arguments/assertions. Sorkin teaches a network server 74 (also known as spooler server or print server), but fails to explicitly teach and/or suggest its capability of converting print data into a format that is readable by the printer (i.e. PDL, PCL, PS, bit map, and etc). The examiner relies upon Irie to remedy such deficiency. Print server 120 (fig. 3) as taught by Irie also includes a spool unit 121 for storing inputted print data transmitted from client computer 111 (fig. 1). Print server 120 includes a data conversion part 129 (fig. 3) for converting inputted print data into a format that is readable by the printer (fig. 3, col. 6, lines 52-58 and col. 8, lines 46-50). In addition, it is well known in the art that a print server is having a conversion capability of converting print data into a printable format that is readable by the printer. See US 6614546 (col. 12, lines 45-45) for an example of print server of converting print data into a printer readable format.

(5) Regarding claim 22, the applicants argued there is no motivation or suggestion has been show to modify or combine server/spooler of Sorkin with printer server of Irie.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, (●) to provide a direct access to the printer without having to communicate via a print server (abstract and col. 4, lines 48-52 of Sorkin) to efficiently monitoring the printer and its status by transmitting the control data directly to the printer. Sorkin teaches a network server 74 (also known as spooler server or print server), but fails to explicitly teach and/or suggest its capability of converting print data into a format that is readable by the printer (i.e. PDL, PCL, PS, bit map, and etc). The examiner relies upon Irie to remedy such deficiency. Print server 120 (fig. 3) as taught by Irie also includes a spool unit 121 for storing inputted print data transmitted from client computer 111 (fig. 1). Print server 120 includes a data conversion part 129 (fig. 3) for converting inputted print data into a format that is readable by the printer (fig. 3, col. 6, lines 52-58 and col. 8, lines 46-50). By converting print data at the print server helps reducing the computing tasks at the client machine, therefore, improving processing speed. Also, network printer server 120 of Irie not only converting print data transmitted from a single client machine, but also from multiple client machines as shown in fig. 1. Therefore, replacing Sorkin's printer server 74 with Irie's printer server 120 clearly is an advantage.

(6) Regarding claim 22, the applicants argued Sorkin teaches away from the invention.

In response, the examiner disagrees with applicants' arguments/assertions. Sorkin does not teach away from the client's invention. Both Sorkin and client's invention involve bypassing a central device (i.e. spooler) to have control data sends directly from client computer to printer. See fig. 1 and fig. 8 of client's disclosure and Sorkin respectively. NOTES: The examiner herein interprets the system as taught by Sorkin *after it has established the communication link* between the two devices, client computer 72 and network printer 76. Fig. 1 of present invention shows a network interface 20 is directly communicates with marking system (printer 12), but

does not show how these two devices initiate its communication link. Therefore, the steps that show how these two devices initiate its communication are lacking. On the other hand, Sorkin clearly teaches how the client computer 72 and network printer 76 establish its communication link, that is, via a network server/spooler 74. After client computer 72 obtains the printer's IP address 76, then these two devices are in a mode for direct communication as shown in fig. 8. Therefore, arguments as presented by the applicants are not persuasive.

(7) Regarding claim 22, the applicants argued Irie teaches away from the client's invention.

In response, the examiner disagrees with applicants' assertions/arguments. Sorkin teaches a network server 74 (also known as spooler server or print server), but fails to explicitly teach and/or suggest its capability of converting print data into a format that is readable by the printer (i.e. PDL, PCL, PS, bit map, and etc). The examiner relies upon Irie to remedy such deficiency. Print server 120 (fig. 3) as taught by Irie also includes a spool unit 121 for storing inputted print data transmitted from client computer 111 (fig. 1). Print server 120 includes a data conversion part 129 (fig. 3) for converting inputted print data into a format that is readable by the printer (fig. 3, col. 6, lines 52-58 and col. 8, lines 46-50). Therefore, Irie's disclosure does not teach away from either client's invention or Sorkin's disclosure, because it alls involves printing. And each (client's invention, Sorkin's disclosure, and Irie's disclosure) involves transmitting print data from the client machine to the print server before forwarding to the printer.

(8) Regarding claim 22, the applicants argued the combined references were viewed with an impermissible hindsight.

Applicant's arguments have been fully considered but they are not persuasive. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

(8) Evidence Appendix

The statement of evidence appendix contained in the brief is correct.

(9) Related Proceedings Appendix

The statement of related proceedings appendix contained in the brief is correct.

(10) Prior Arts of Record
US 6606164 to Irie et al.
US 5898823 to Sorkin et al.
US 5270775 to Suzuki et al

(11) Examiner's Answer, Conclusion
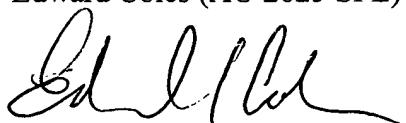For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Thierry L. Pham

Conferees:

Edward Coles (AU 2625 SPE)

EDWARD COLES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER

Joseph Pokrzywa (AU 2625 Primary Examiner)

JOSEPH R. POKRZYWA
PRIMARY EXAMINER